

Objective

The objective of this workshop is to

- a. Build a Docker image
- b. Deploy 2 containers inside Docker network

Setup

- a. Create an account at Docker Hub (<https://hub.docker.com>)
- b. Login to your Docker Hub account
- c. Clone the repository <https://github.com/stackupiss/cfdsa.git>.

Workshop

Task 1

Create a directory called `workshop01/task1` in your repo. Unzip the given `dov-bear` file inside this directory.

Go into the `dov-bear` directory. In this directory you will find 4 directories each with a same web application written in 4 different languages (JavaScript, Java, Golang, Python).

The web application randomly displays images on its landing page on port 3000. You can optionally display 2 message above the image.

See image (Figure 1) on the right.

The 2 messages and the port can be set with the following environment variables

- `PORT` - sets the port. Defaults to 3000
- `INSTANCE_NAME` - sets the application name. Will be displayed above the image. Defaults to empty string
- `INSTANCE_HASH` - sets an arbitrary hash for the application. Defaults to an empty string.

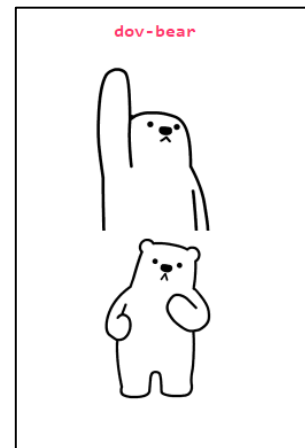


Figure 1 dov-bear

Select a language you are familiar with and containerize the application.

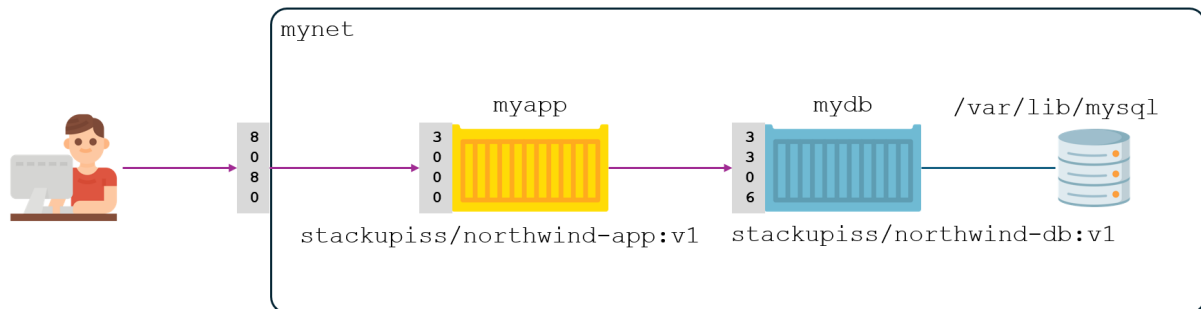
Once you have containerized the application push it to your Docker Hub account.

Run the image, set the environment variable `PORT` to 5000, `INSTANCE_NAME` and `INSTANCE_HASH` to any string value of your choice.

Task 2

Create a separate directory called `workshop01/task2` for the following task.

Create a Docker compose file that will deploy the following architecture into a Docker network called `mynet`.



Database

The database called `mydb` is deployed from the following image `stackupiss/northwind-db:v1`.

Mount a volume to `/var/lib/mysql` in the database.

The database can be accessed from port 3306.

Application

An application called `myapp` queries the database. It connects to the database with the following environment variables:

- `DB_HOST` is the DNS name of the database
- `DB_USER` is `root`. This is the database user
- `DB_PASSWORD` is `changeit`. This is the password used to login to the database as `root`.

Use the image `stackupiss/northwind-app:v1` to deploy `myapp`.

`myapp` can be accessed on port 3000 from within `mynet`. Port bind this port to 8080 so that users can access the application.

As a security measure, the databases, `mydb`, should not be accessible outside of `mynet`.

Submission

Push your work to your remote repository.

Post your Git repo on the submission channel in the course's Slack channel